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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,700	07/14/2003	Toby Smith	P1721US01	3047

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EXAMINER

LE, HUYEN D

ART UNIT PAPER NUMBER

2646

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,700

Applicant(s)

SMITH, TOBY

Examiner

HUYEN D. LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-16, 18-20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-16, 18-20 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, 9-16, 18-20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byrne (U.S. patent 4,330,729) in view of Nakagawa (U.S. patent 4,430,529).

Regarding claims 1-3, 5-7, 9-12, 14-16, 18-20 and 22 Byrne teaches an acoustic generating device that comprises a piezoelectric material (12), a metal diaphragm (10) having a nodal fulcrum as claimed, a housing (20, 22, 32, 42 in Byrne) an electric circuit (14) and mounting devices (figures 2 and 5).

Byrne teaches the mounting devices (20, 24, 22, 30, col. 4, lines 5-8 and lines 13-17) that are constructed of insulating material and positioned at the top and bottom of the metal diaphragm.

Byrne does not specifically teach that the mounting devices support the metal diaphragm at the nodal fulcrum with an adhesive as claimed. However, it is very well known in the art to provide an adhesive for fixing or connecting the mounting devices to the diaphragm.

Nakagawa teaches an adhesive for connecting the mounting device to the diaphragm (col. 3, lines 29-31 and col. 4, lines 42-44).

Since Byrne does teach the mounting devices that support the diaphragm at the node ring; it therefore would have been obvious to one skilled in the art to provide an adhesive or a bonding

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agent, as taught by Nakagawa, for securely connect the mounting devices (20, 22) of Byrne to the diaphragm.

Regarding claims 4 and 13, Byrne in view of Nakagawa do not specifically teach that the electric circuit is at least partially mounted on a circuit board as claimed. However, providing a circuit board for the electric circuit in a piezoelectric transducer is well known in the art.

Therefore, it would have been obvious to one skilled in the art to provide a circuit board for the electric circuit in the piezoelectric transducer of Byrne for a compact transducer and providing better electrical connections to the device.

Response to Arguments

3. Applicant's arguments filed 02/01/05 have been fully considered but they are not persuasive.

Responding to the arguments about the combination of Byrne'729 in view of Nakagawa'529 on page 9 of the Remarks, the examiner refers to the Office Action. Further, the Applicant should note that Byrne does teach a diaphragm that can be secured to a support surface by means of clamping or gluing (col. 1, lines 25-29). The examiner has provided the Nakagawa reference for the teaching of using an adhesive for securing the diaphragm to a support surface of a piezoelectric loudspeaker. The examiner has not combined the Nakagawa reference for modifying the structure of the Byrne loudspeaker.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SINH TRAN can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HL
July 24, 2005



HUYEN LE
PRIMARY EXAMINER